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To
Subject Chemical Recovery Systems, RI/FS Conditional Approval

EPA Region 5 Records Ctr.



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Sent Via Electronic Transmission And Certified Mail Return Receipt

Mr. Douglas A. McWilliams, Esq.
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Cleveland, OH 44114-1304

Re: U.S. EPA Notice of Deficiencies to the Final Draft Remedial Investigation/Feasibility Study (RI/FS) Report, Revision 1 (July 2005), Chemical Recovery Systems (CRS), Inc.,

Dear Mr. McWilliams:

Listed below and followed up with a certified letter are the U.S. EPA's comments and notice of deficiencies to the Draft Final RI/FS Report, Revision 2, April 2006 submitted to the Agency for review and approval. Pursuant to the AOC, Section VIII, Work to be Performed, Paragraph 64 (D), "If U.S. EPA disapproves of or requires revisions to the RI/FS report, in whole or part, Respondents will amend and submit to U.S. EPA a revised RI/FS report which is responsive to the directions in all U.S. EPA's comments, within thirty (30) days of receiving U.S. EPA's comments."

In general, the document appears to adequately portray conditions at the site and remediation options. Therefore, the Agency is offering a "**Conditional Approval**" to the Remedial Investigation/Feasibility Study Report, Revision 2, April 2006. However, the Human Health Risk Assessment contained two significant issues that should be addressed prior to finalizing and "approving" the document. These significant issues are identified as "**Significant Technical Comments.**" There are also a number of other comments to address in certain sections, which are important for providing consistency and clarification through the document, although they are not likely to impact the final conclusion of the report.

Review Comments regarding the Remedial Investigation Report (Revision 2, April 2006)

General Comments

1. In general, comments that were submitted to the PRP group dated November 2005 have been addressed. Instances where a comment was not addressed have been identified below.

Specific Comments

3.0 Physical Characteristics of Study Area

1. **Section 3.6, Page 19 of 40:** The presence, on and at the top of the river bank of several trees felled by beavers indicates that the area of the site is attractive to wildlife, specifically beavers. This evidence should be included in the description of Terrestrial and Aquatic

Wildlife.

5.0 Fate and Transport

1. **Section 5.2, Page 25 of 40:** EPA guidance (EPA/540/G-89/004) suggests that the Fate and Transport discussion analyze the rate of contaminant migration and the fate of contaminants at the site "over the period between release and monitoring." However, Section 5.2 is primarily a collection of general statements regarding the physical and chemical properties of the chemicals of concern, without site-specific analyses or estimates of these COCs' potential to migrate off-site. On page 21 of 40 of the FS, it is stated that "Current sampling shows that soil to ground water leaching is not a present concern...." If this is the case, it should be discussed in the Fate and Transport section of the RI report. Please include this information in that section.

6.0 Risk Assessment

1. **Section 6.1, Page 30 of 40:** EPA recommends that the third paragraph be revised further to indicate that a potable ground water use scenario was quantitatively evaluated in the assessment. Note: Further revisions to the human health risk assessment, as detailed below, may require updates to Section 6.1 of the RI report.

Tables

1. **Table 7.1:** The Target Levels for soil contact should be based on the summed risk associated with the three exposure routes of interest (ingestion, dermal contact, and inhalation). Target levels for VOCs in soil are currently based only on the inhalation pathway which is not the only exposure pathway contributing to risk. Target levels for non-volatile compounds (e.g., arsenic) should not only be based on ingestion and dermal contact since the inhalation of particulates is also a complete exposure pathway. Please re-calculate the soil target levels such that they are protective of all three exposure pathways.

2. **Table 7.1:** The Target Levels associated with a hazard quotient (HQ) of 1 should be calculated for all compounds of concern because there will be instances where the target level associated with 1E-04 is greater than that associated with the HQ of 1 (e.g., for benzene in indoor air from ground water, the 1E-04 level is 53.1 mg/L, while the HQ of 1 level is 43 mg/L). If the target level associated with a cancer risk of 1E-04 is selected as the site-specific clean up level as part of the risk management process, this selected value would not be protective of non-cancer health effect. The lower of the appropriate cancer and non-cancer values should be selected for use as the cleanup level. Furthermore, it must be noted that a Target Level of 1E-04 or HQ of 1, calculated for any specific COC, is not the final site-specific clean up level for that COC. The Target Level must lie within Superfund's acceptable risk range of 10⁻⁴ to 10⁻⁶ or HI of 1 as a Total Cumulative Risk Level for all COCs selected.

3. **Table 7.1:** The Target Levels for soil and ground water compounds contributing to excess risk/hazard for residential exposures should be included. Even if the site is not cleaned up to residential criteria (i.e., commercial/industrial criteria are selected as clean up criteria), the inclusion of residential target levels may provide useful information in

the future should a change in land use be contemplated by

future land owners.

Appendix F

Significant Technical Comments

1. **Section 4.2, Page 19 of 41:** The trespasser exposure frequency was not increased as requested and little additional justification was provided in the revised report to support the 12 day/year assumed exposure frequency. For example, for sediment, if one was planning on taking an action at the site for sediments to prevent or mitigate exposures at a greater frequency than 12 day/year, then the risk assessment needs to evaluate a higher level of assumed exposure. Section 7.2 of the RI reads that sediments may pose an unacceptable risk if land use is changed from industrial use to parkland. This statement is unsubstantiated by the current risk assessment and needs to be supported by risk calculations. Clean up of any medium or the use of institutional controls at a site can not be base on assumed risk. Instead, the risk assessment needs to demonstrate the quantitative risk before an action can be taken.

2. **Tables 14 and 15, Oral Absorption Efficiencies:** Based on information provided in Table 16 and in the risk calculation spreadsheets, it appears that the toxicity values provided in EPA's draft trichloroethene (TCE) cancer reassessment were not used. Instead CalEPA toxicity values were used. However, the discussion in the uncertainty section (Section 7.3) and in the Section 6.1 indicates that the draft TCE toxicity values were used in the risk calculations. A presentation of risks using the EPA draft TCE toxicity values could not be located in the revised risk assessment. Please clarify and correct the risk calculations by using the EPA's draft cancer reassessment toxicity values for TCE.

General Comments

1. **Section 3.1, 4th bullet, Page 10 of 41 (previous comment):** Please provide the depth of standing surface water at each sediment collection point. Also indicate the distance from shore for each of the sediment collection points. Sediment samples used in a human health risk assessment should be accessible to humans, considering depth of overlying water and distance from shore.

2. **Section 4.2, last paragraph, Page 20 of 41 (previous comment):** The report has not been revised to include central tendency risk/hazard estimates for those pathways exceeding regulatory criteria. Although, decisions made at Superfund sites, regarding remedies, are based on upperbound risk estimates not on central tendency risk estimates, the guidance recommends that central tendency estimates be included in risk assessments.

Tables

1. **Table 3, Summary Ground Water Analytical Results:** Reference to a "*G = The samples had elevated reporting limits due to matrix interferences*" data qualifier was added to Table 3. However, this qualifier does not appear to have been used to indicate which samples had detection limits above PRGs. Please

address.

2. **Table 5:** For clarity, the footnote on Table 5 should be changed to reflect that HA-6 and HA-7 were combined with the other sediment samples (presented in Table 4) for quantitative evaluation.

3. **Tables 9 and 10:** The cancer risks summarized on TARA Tables 9 and 10 reflect cancer risks for the two age groups, presented individually. The text accurately summarized the summed risk for the two age groups. However, because the risks were not summed on the TARA tables, some of the soil contaminants, which are significant risk contributors (based on summing) did not get identified as significant risk contributors (e.g., benzo(k)fluoranthene, Aroclor 1221, and bis(2-ethylhexyl)phthalate).

It appears that only the adult cancer risk (rather than the adult/child summed cancer risks) was used to select significant risk contributors that were discussed in the text. It is recommended that the TARA Tables 9 and 10 be revised to present the summed adult/child cancer risks and the child hazard index (as the most conservative). Once the summed risks are presented, the text of the risk assessment, Section 6.1, Section 7.1.3, and the Executive Summary should be revised to correctly indicate the significant risk contributors.

4. **Table 13, Future Juvenile Trespasser:** The trespasser exposure frequency was not increased to 50 days/year as requested, and little additional justification was provided in the revised report to support the 12 days/year assumed exposure frequency. Same comment apply here as it did for Section 4.2, Page 19 or 41: For example, for sediment, if one was planning on taking an action at the site for sediments to prevent or mitigate exposures at a greater frequency than 12 day/year, then the risk assessment needs to evaluate a higher level of assumed exposure. Section 7.2 of the RI reads that sediments may pose an unacceptable risk if land use is changed from industrial use to parkland. This statement is unsubstantiated by the current risk assessment and needs to be supported by risk calculations. Clean up of any medium or the use of institutional controls at a site can not be base on assumed risk. Instead, the risk assessment needs to demonstrate the quantitative risk before an action can be taken.

Appendix H

1. **Section 2.1.1.4, Page 13 of 40:** Reads "A summary of the perforations/cracks found within the sewer and a diagram indicating the locations of the perforations is included in Appendix H." Appendix H is missing the summary and diagram alluded to in the text.

Review Comments regarding the Feasibility Study Report (Revision 2, April 2006)

General Comments

1. Comments submitted November 2005 have been addressed.
2. If significant changes that alter the conclusions of the Draft Final RI Report, Human Health, or Ecological Risk Assessments are required of the current revisions of these documents, the Final Draft FS Report should be reviewed again in

consideration of those revisions.

Specific Comments

1. Please add Alternative 6 to the Excavation and Disposal to Section 4.2, Individual Analysis of Alternatives. Although Alternative 6 will not be implemented, it is necessary to include it in the list of screening alternatives, which demonstrates to the general public that the alternative was considered. This alternative was evaluated in the Report on Comparative Analysis, Revision 0, July 2004; it also needs to be added to the RI/FS Report.
2. There is no clear justification presented in the FS as to the location of and why only 0.5 acres of the site would require a geosynthetic cap. There are other areas of the site (former drum storage area 2 and the hits in MW-6 are as high or even higher than the hits associated with MW-1 and MW-9D), which are just as contaminated as the area in the northwestern (NW) portion of the site. A summary and conclusion narrative of the soil-ground water leaching model calculations explaining why a geosynthetic cap is necessary in the NW corner of the site should be included in the FS. This will aid the private citizen's understanding as to why the infiltration barrier is needed in only that portion of the site and not site-wide. Otherwise, all of the alternatives should have the geomembrane cap to cover a larger area of the site, if not the entire 2.3 acres, and the cost estimates should be adjusted accordingly.

If you have any questions or need additional information, please do not hesitate to ask. Please note, if it is at all possible, replacement pages may be submitted to the agency, instead of reproducing the entire document when responding to this notice deficiencies. If replacement pages are provided, please include detailed instructions as to where the pages belong. Otherwise, replacement of the entire document will be necessary, if substitution of pages into the documents we have already will be too confusing.

Sincerely,
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